

Monday, 16 November 2020, 3 pm
Stephanstrasse 1 A

ZOOM Meeting

Institute Colloquium

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Max Planck Research Group "Adaptive Memory"

Constructing event representations: Event memory, perception and imagination

Neuropsychological and fMRI evidence suggests that the ability to vividly remember our personal past, and imagine future scenarios, involves two closely connected regions: the hippocampus and ventromedial prefrontal cortex (vmPFC). Despite evidence of a direct anatomical connection from hippocampus to vmPFC, it is unknown whether hippocampal-vmPFC structural connectivity supports both past and future-oriented episodic thinking. I will report a novel association between white matter microstructure of the pre-commissural fornix and episodic past and future thinking. Thus, elucidating a potential anatomical mechanism by which direct hippocampal-to-vmPFC connectivity supports constructive episodic processing. These findings provide support for the idea of a 'core' network supporting both the re-construction of autobiographical events and the construction of hypothetical personal future events (Benoit & Schacter, 2015). This indicates that individual differences in structural connectivity are important for how richly people can "mentally roam at will over what has happened, as readily as over what might happen" (Tulving, 2002). Additionally, perhaps a common neurocognitive network supports the construction of event representations for autobiographical memory and online scene construction. I will report other work on the construction of internal scene representations and hippocampal subfield volumes. I hope to convince you of the value of zooming in with ultra-high-resolution imaging for precise anatomical characterisation, as well as zooming out to look at structural neuroanatomical networks and the importance of broader network understanding.